FIG. 1

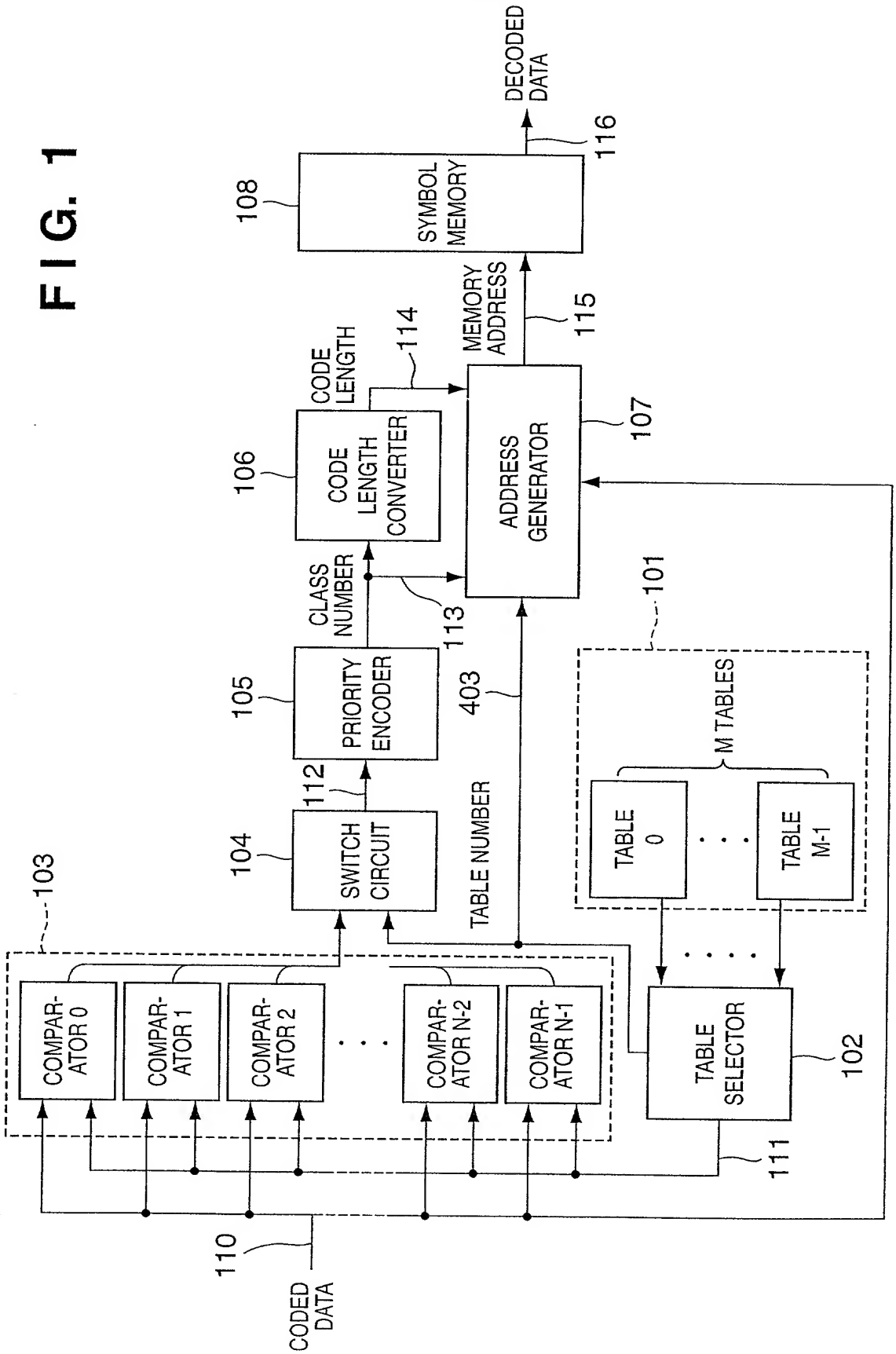

DECODED DATA
116
SYMBOL MEMORY
108
MEMORY ADDRESS
115
CODE LENGTH
114
CODE LENGTH CONVERTER
106
ADDRESS GENERATOR
107
CLASS NUMBER
113
PRIORITY ENCODER
105
403
101
M TABLES
TABLE 0
TABLE M-1
112
SWITCH CIRCUIT
104
TABLE NUMBER
103
COMPAR-ATOR 0
COMPAR-ATOR 1
COMPAR-ATOR 2
COMPAR-ATOR N-2
COMPAR-ATOR N-1
TABLE SELECTOR
102
111
110
CODED DATA

FIG. 2

TABLE NUMBER	VARIABLE-LENGTH CODE TABLE	TABLE STRUCTURE	CLASS NUMBER
0	JPEG DC	FLIP-FLOP	8
1	JPEG DC	FLIP-FLOP	10
2	JPEG AC	FLIP-FLOP	15
3	JPEG AC	FLIP-FLOP	15
4	MPEG DC B.12	HARD WIRED	8
5	MPEG DC B.13	HARD WIRED	9
6	MPEG AC B.14	HARD WIRED	16
7	MPEG AC B.15	HARD WIRED	20

FIG. 3

COMPARATOR NUMBER <NUMBER OF BITS>	JPEG,MPEG DC CLASS NUMBER <CODE LENGTH>	MPEG B.14 CLASS NUMBER <CODE LENGTH>	MPEG B.15 CLASS NUMBER <CODE LENGTH>
	310	311	312
0 <17>	–	0 <17>	0 <17>
1 <1>	1 <1>	–	–
2 <2>	2 <2>	14 <2>	–
3 <3>	3 <3>	15 <3>	15 <3>
4 <4>	4 <4>	13 <4>	13 <4>
5 <5>	5 <5>	12 <5>	14 <5>
6 <6>	6 <6>	6 <6>	8 <6>
7 <7>	7 <7>	8 <7>	10 <7>
8 <8>	8 <8>	7 <8>	9 <8>
9 <9>	9 <9>	9 <9>	11 <9>
10 <10>	10 <10>	10 <6>	5 <10>
11 <11>	11 <11>	5 <11>	6 <11>
12 <12>	12 <12>	11 <6>	7 <10>
13 <13>	13 <13>	4 <13>	4 <13>
14 <14>	14 <14>	3 <14>	3 <14>
15 <15>	15 <15>	2 <15>	2 <15>
16 <16>	16 <16>	1 <16>	1 <16>
17 <6>	–	–	12 <6>
18 <4>	–	–	16 <4>
19 <6>	–	–	17 <6>
20 <8>	–	–	18 <8>
21 <9>	–	–	19 <9>

300
302
301

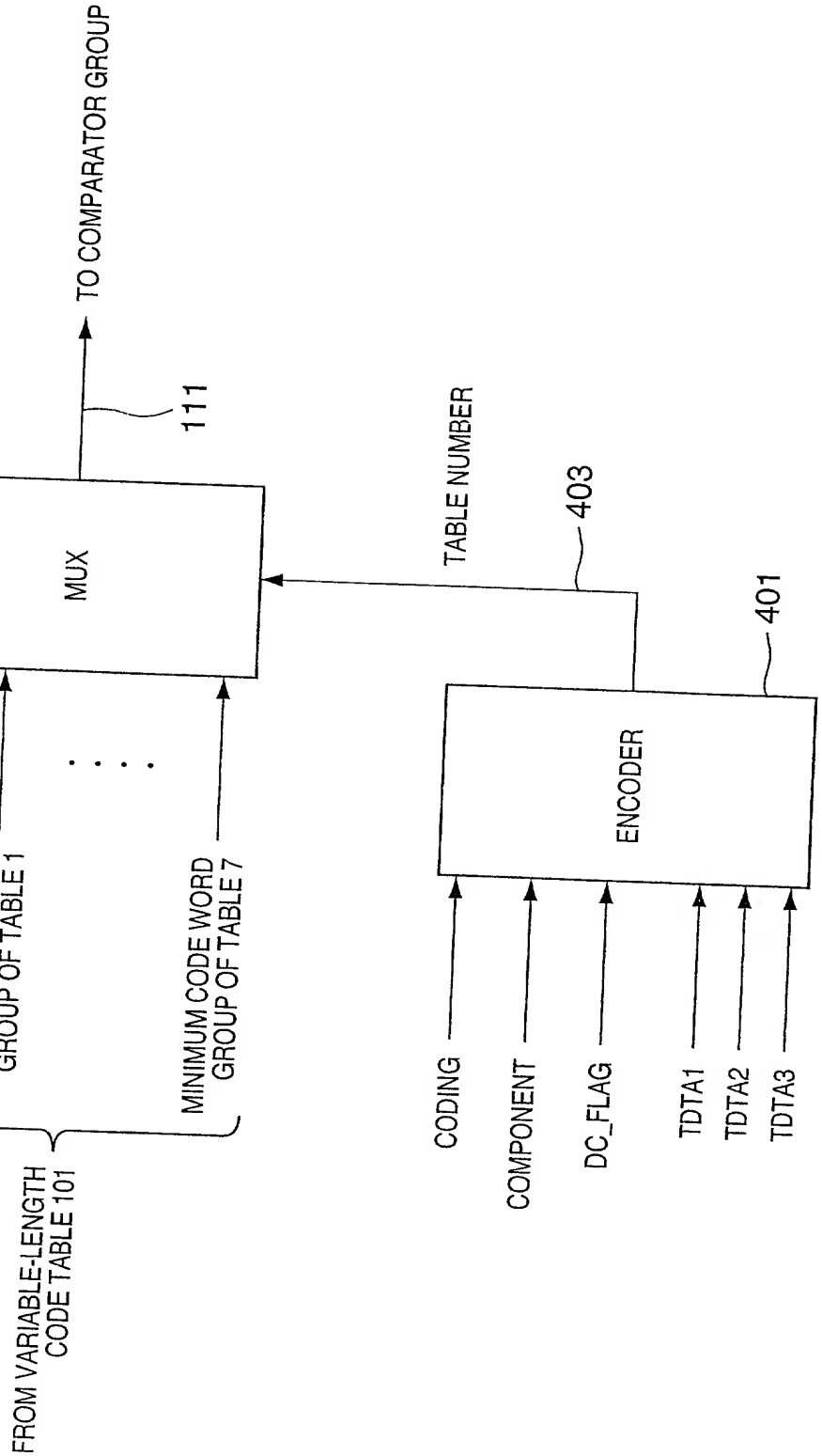
FIG. 4

CLASS NUMBER	MINIMUM CODE WORD	CODE LENGTH
0	0000 0000 0001 0000 0	17
1	0000 0000 0010 0000	16
2	0000 0000 0100 000	15
3	0000 0000 1000 00	14
4	0000 0001 0000 0	13
5	0000 0010 000	11
6	0000 01	6
7	0000 1000	8
8	0001 000	7
9	0010 0000 0	9
10	0010 10	6
11	0011 00	6
12	0100 0	5
13	0110	4
14	10	2
15	110	3

FIG. 5

CLASS NUMBER	MINIMUM CODE WORD	CODE LENGTH
0	0000 0000 0001 0000 0	17
1	0000 0000 0010 0000	16
2	0000 0000 0100 000	15
3	0000 0000 1000 00	14
4	0000 0001 0000 0	13
5	0000 0010 00	10
6	0000 0011 000	11
7	0000 0011 10	10
8	0000 01	6
9	0000 1000	8
10	0001 000	7
11	0010 0000 0	9
12	0010 10	6
13	0100	4
14	0111 0	5
15	100	3
16	1100	4
17	1110 00	6
18	1111 0000	8
19	1111 1010 0	9

FIG. 6


FROM VARIABLE-LENGTH CODE TABLE 101
MINIMUM CODE WORD GROUP OF TABLE 0
MINIMUM CODE WORD GROUP OF TABLE 1
MINIMUM CODE WORD GROUP OF TABLE 7
MUX
402
111
TO COMPARATOR GROUP
TABLE NUMBER
403
ENCODER
401
CODING
COMPONENT
DC_FLAG
TDTA1
TDTA2
TDTA3

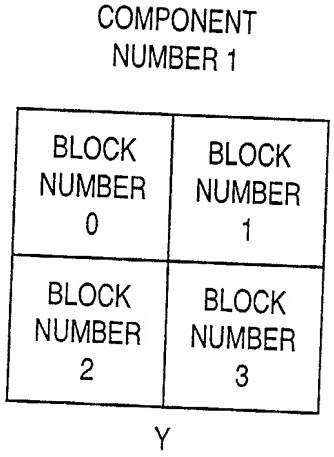


FIG. 7A

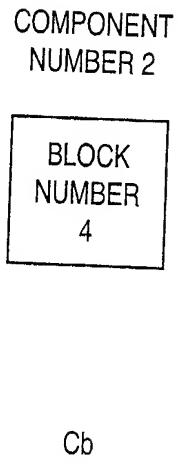


FIG. 7B

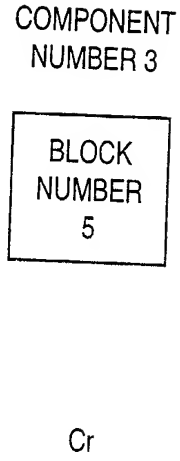


FIG. 7C

FIG. 8

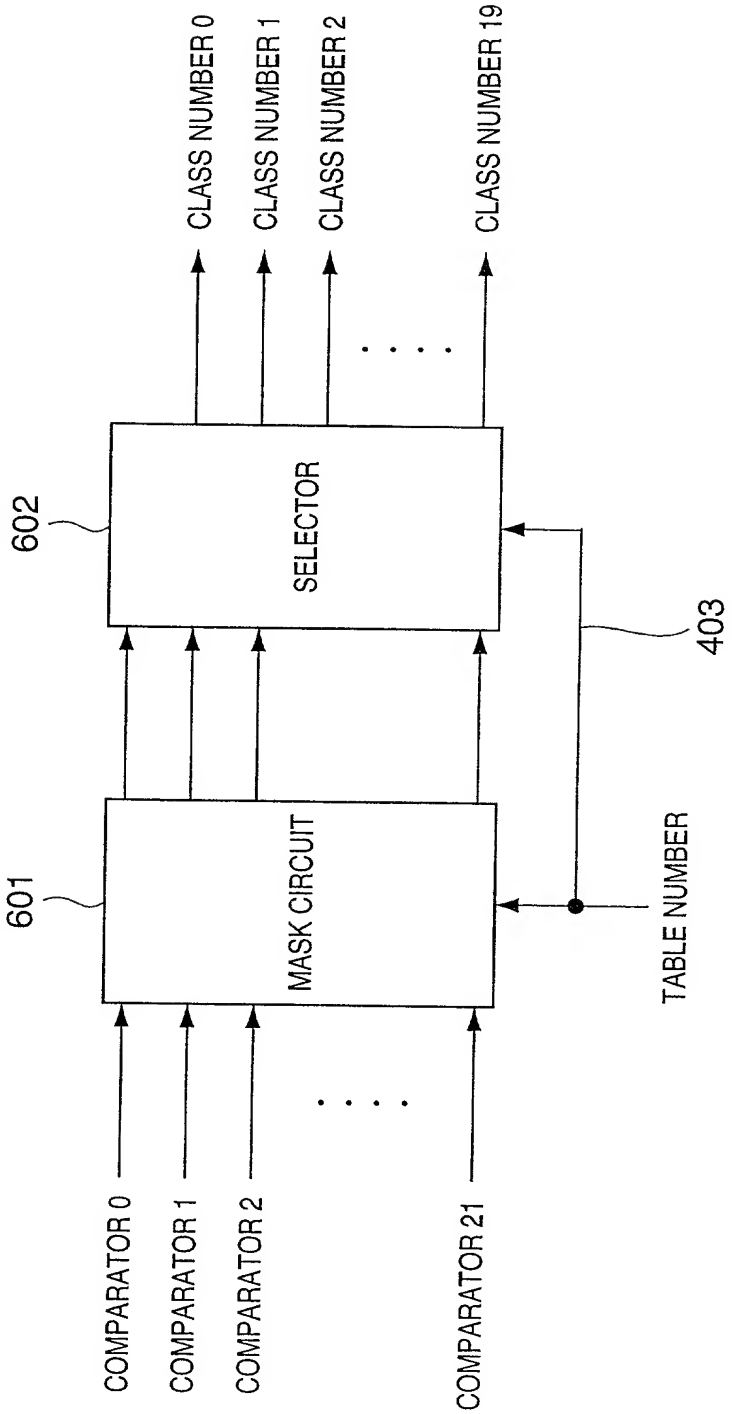

CLASS NUMBER 0
CLASS NUMBER 1
CLASS NUMBER 2
CLASS NUMBER 19
602
SELECTOR
403
601
MASK CIRCUIT
TABLE NUMBER
COMPARATOR 0
COMPARATOR 1
COMPARATOR 2
COMPARATOR 21

FIG. 9

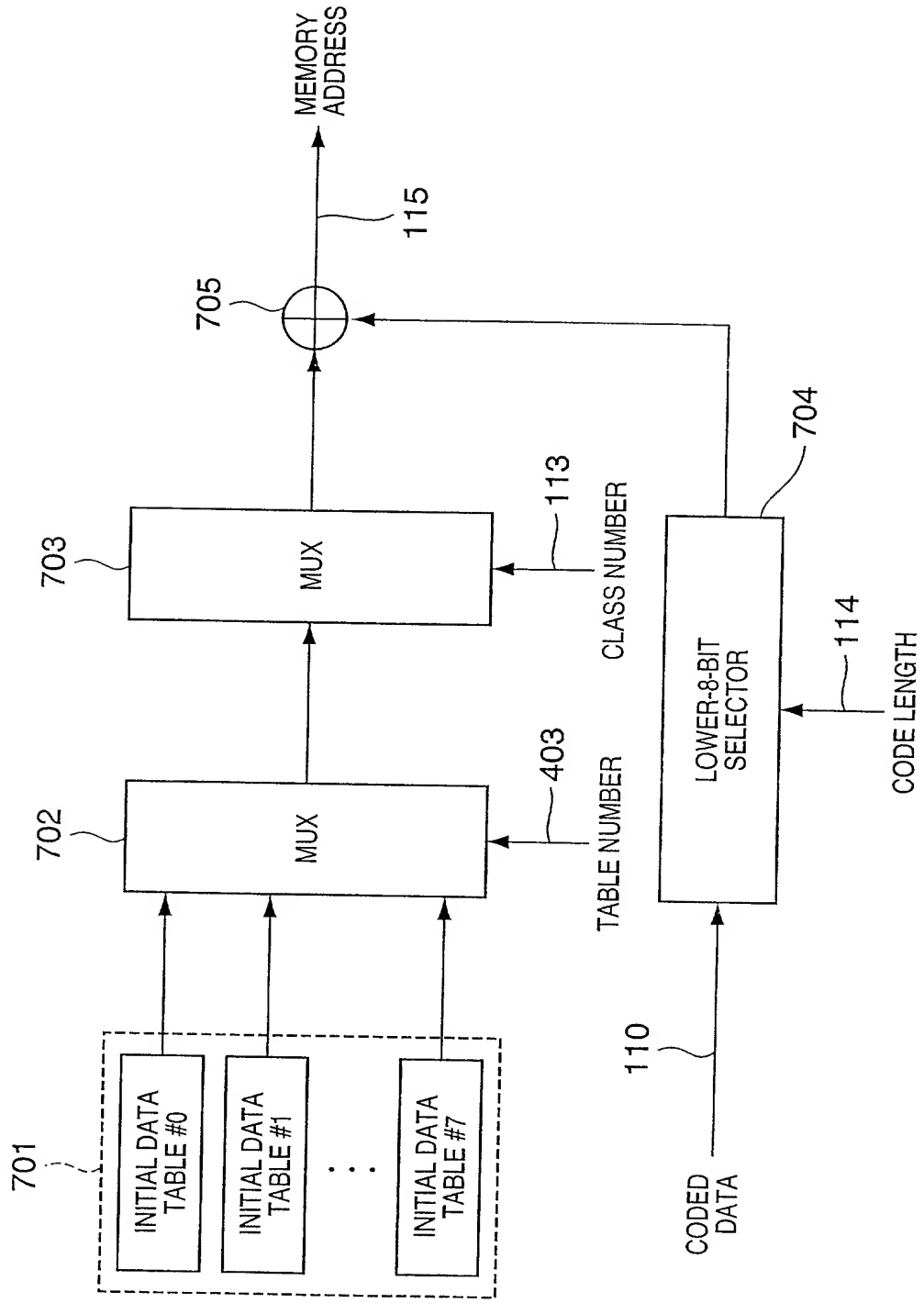

MEMORY ADDRESS
115
705
703
MUX
113
CLASS NUMBER
704
LOWER-8-BIT SELECTOR
114
CODE LENGTH
702
MUX
403
TABLE NUMBER
701
INITIAL DATA TABLE #0
INITIAL DATA TABLE #1
INITIAL DATA TABLE #7
110
CODED DATA

FIG. 10

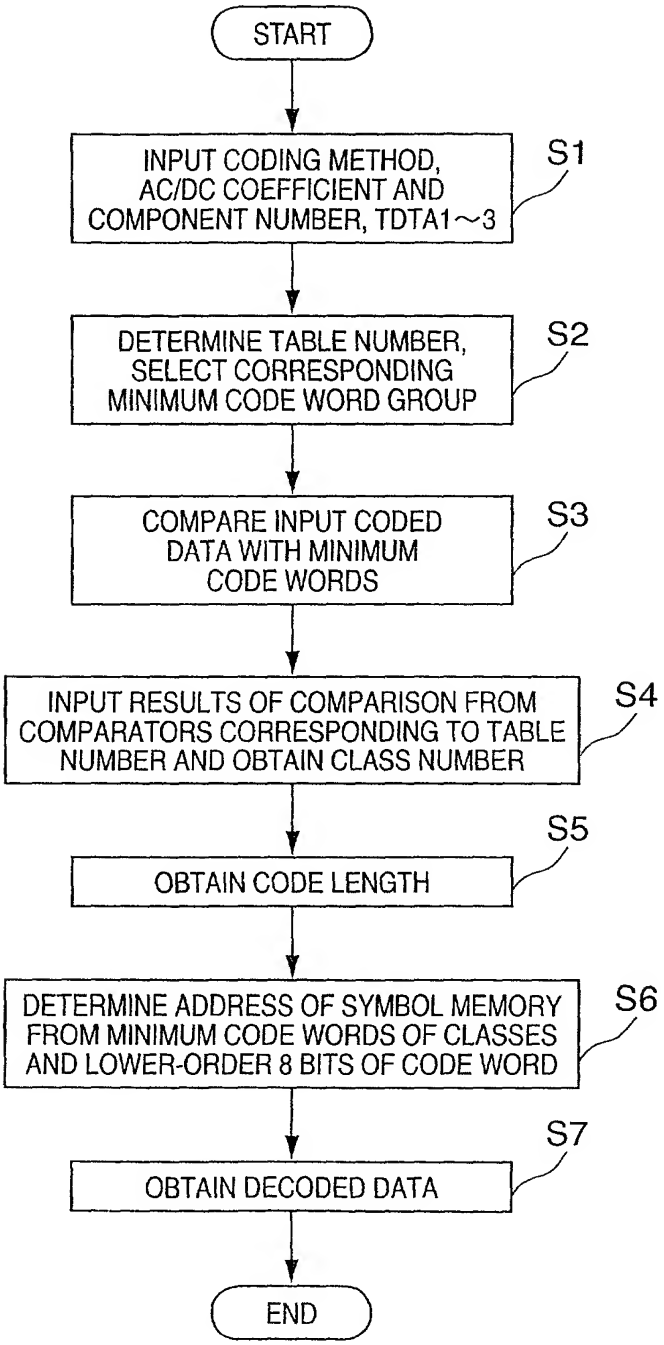
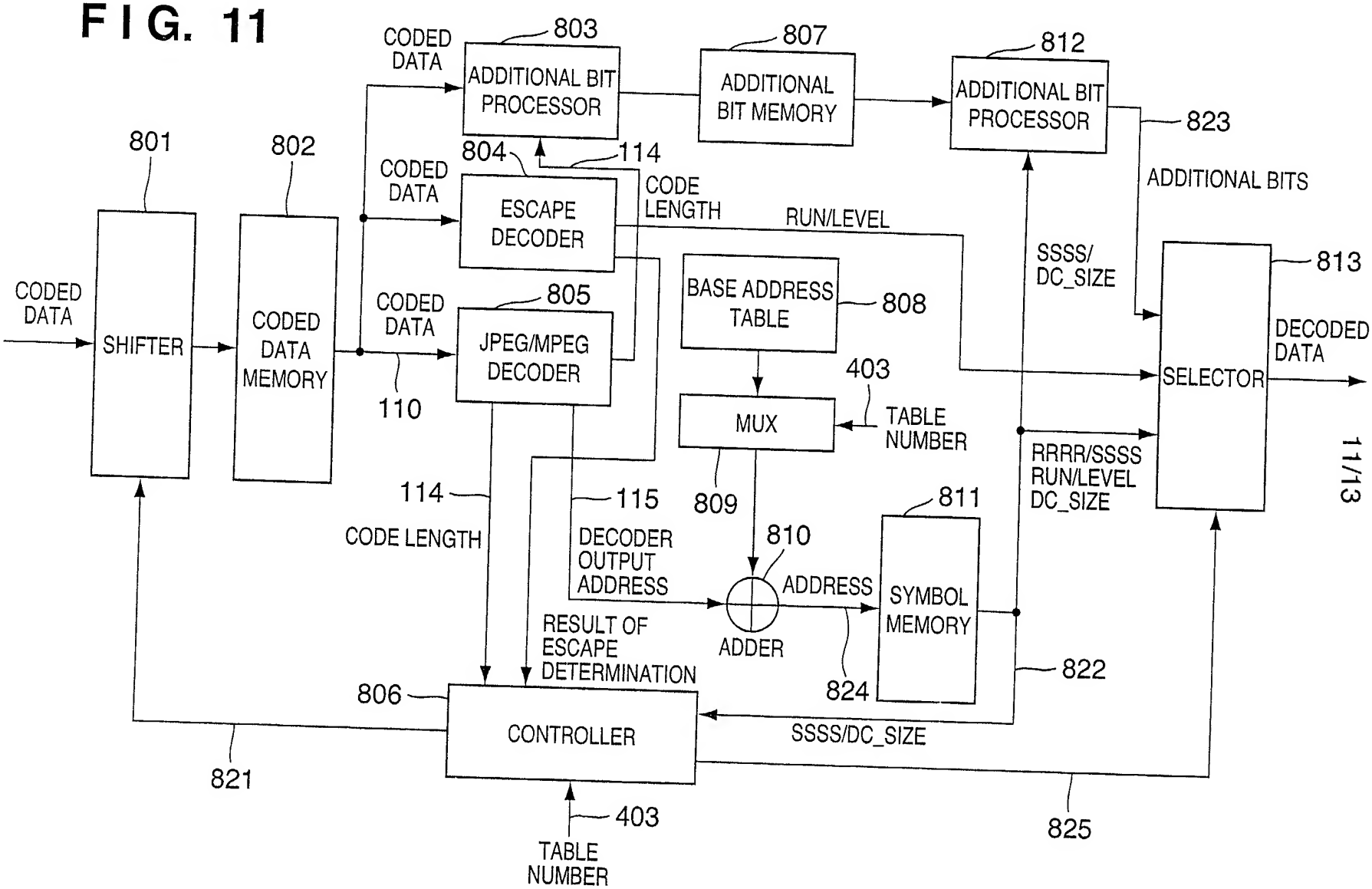

START
INPUT CODING METHOD, AC/DC COEFFICIENT AND COMPONENT NUMBER, TDTA1～3
S1
DETERMINE TABLE NUMBER, SELECT CORRESPONDING MINIMUM CODE WORD GROUP
S2
COMPARE INPUT CODED DATA WITH MINIMUM CODE WORDS
S3
INPUT RESULTS OF COMPARISON FROM COMPARATORS CORRESPONDING TO TABLE NUMBER AND OBTAIN CLASS NUMBER
S4
OBTAIN CODE LENGTH
S5
DETERMINE ADDRESS OF SYMBOL MEMORY FROM MINIMUM CODE WORDS OF CLASSES AND LOWER-ORDER 8 BITS OF CODE WORD
S6
OBTAIN DECODED DATA
S7
END

FIG. 11


CODED DATA
801
SHIFTER
802
CODED DATA MEMORY
110
CODED DATA
803
ADDITIONAL BIT PROCESSOR
807
ADDITIONAL BIT MEMORY
812
ADDITIONAL BIT PROCESSOR
823
ADDITIONAL BITS
804
114
CODE LENGTH
ESCAPE DECODER
RUN/LEVEL
805
JPEG/MPEG DECODER
BASE ADDRESS TABLE
808
SSSS/ DC_SIZE
813
SELECTOR
DECODED DATA
403
TABLE NUMBER
MUX
809
RRRR/SSSS RUN/LEVEL DC_SIZE
11/13
114
CODE LENGTH
115
DECODER OUTPUT ADDRESS
810
ADDRESS
ADDER
811
SYMBOL MEMORY
RESULT OF ESCAPE DETERMINATION
824
822
806
CONTROLLER
SSSS/DC_SIZE
821
403
TABLE NUMBER
825

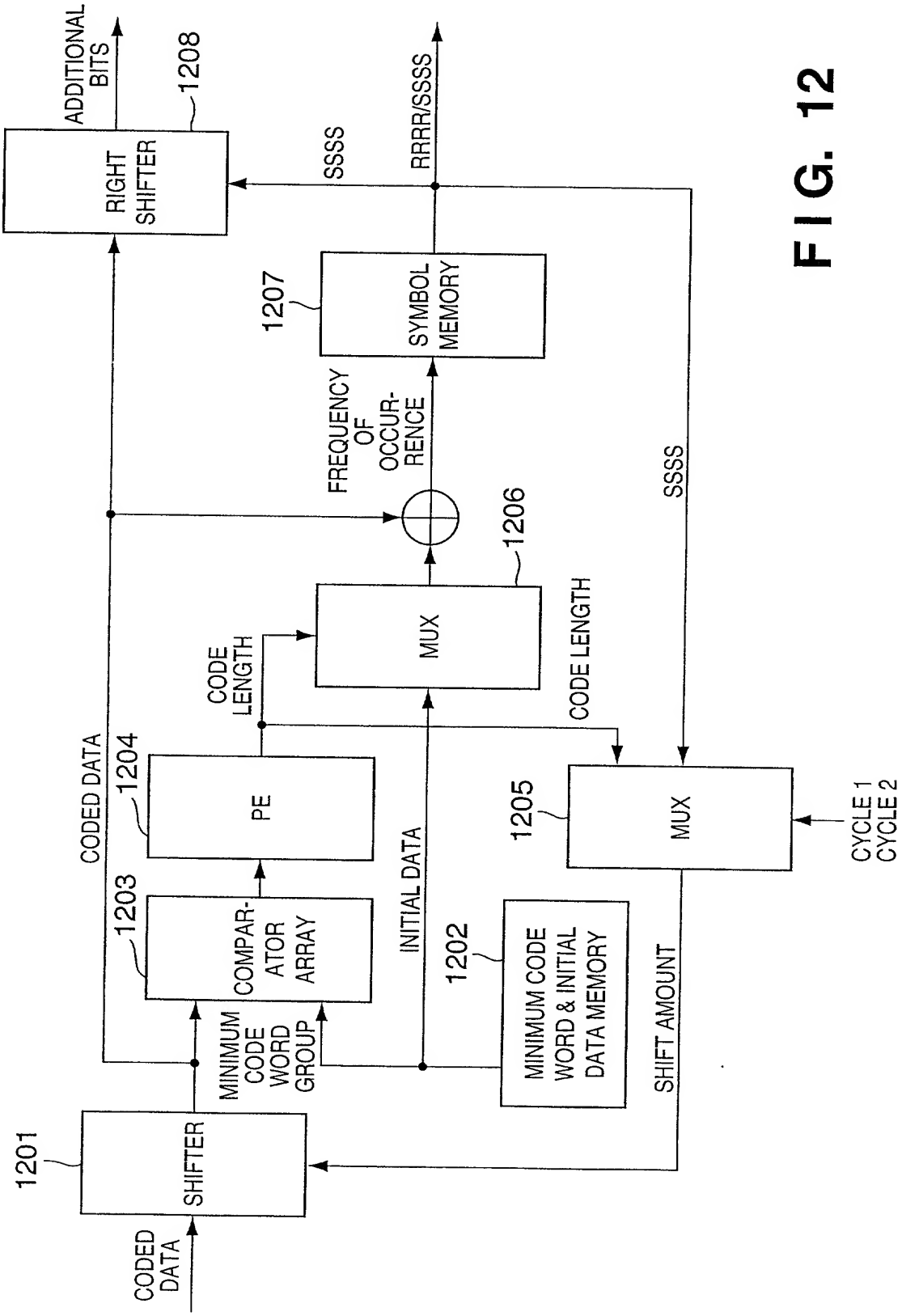
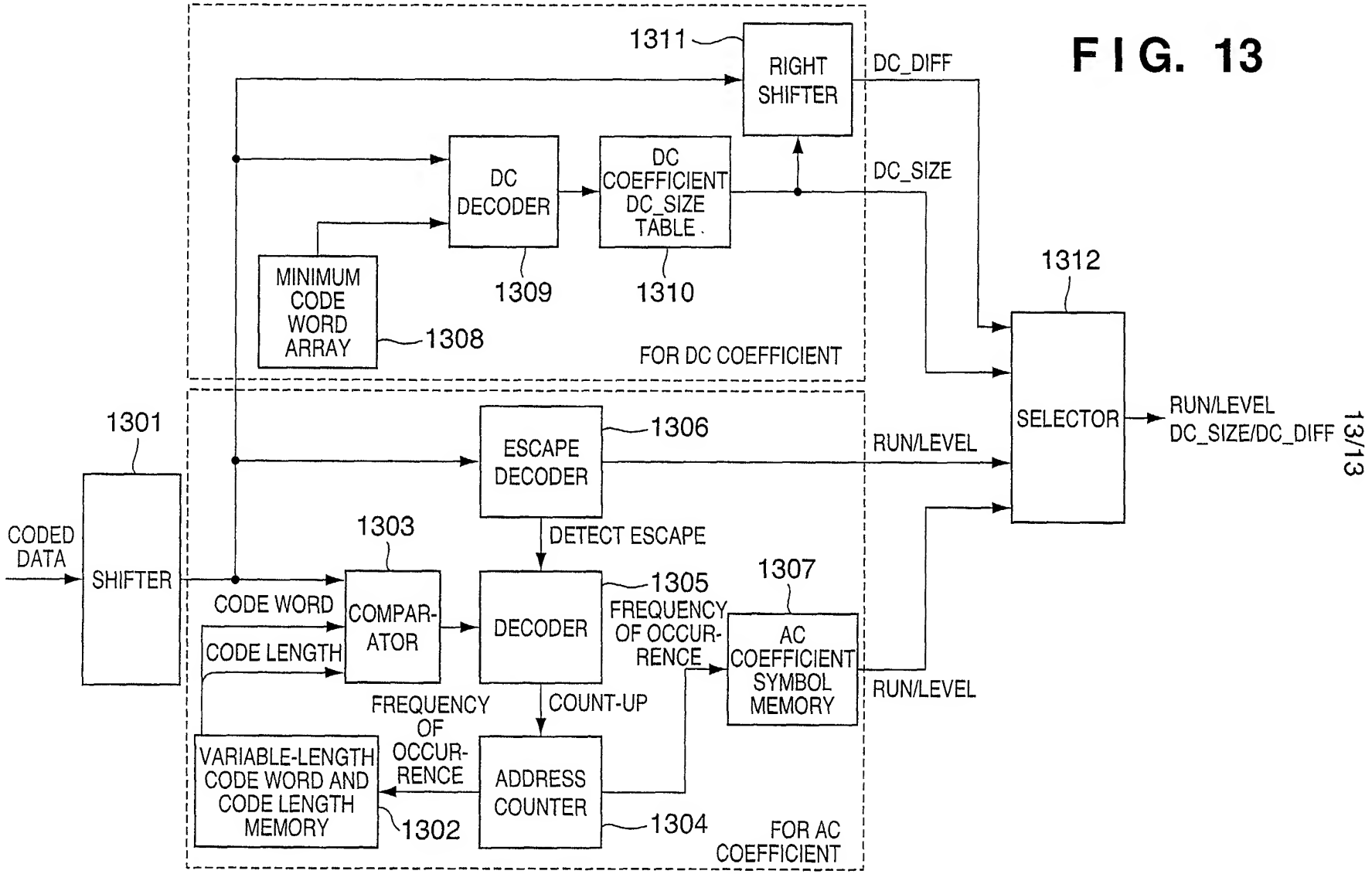

CODED DATA
1201
SHIFTER
MINIMUM CODE WORD GROUP
1203
COMPAR-ATOR ARRAY
CODED DATA
1204
PE
CODE LENGTH
MUX
1206
FREQUENCY OF OCCUR-RENCE
1207
SYMBOL MEMORY
SSSS
RRRR/SSSS
RIGHT SHIFTER
1208
ADDITIONAL BITS
INITIAL DATA
1202
MINIMUM CODE WORD & INITIAL DATA MEMORY
SHIFT AMOUNT
1205
MUX
CODE LENGTH
SSSS
CYCLE 1
CYCLE 2

FIG. 12

FIG. 13


1311
RIGHT SHIFTER
DC_DIFF
DC DECODER
DC COEFFICIENT DC_SIZE TABLE
DC_SIZE
MINIMUM CODE WORD ARRAY
1308
1309
1310
FOR DC COEFFICIENT
1312
SELECTOR
RUN/LEVEL DC_SIZE/DC_DIFF
1301
ESCAPE DECODER
1306
RUN/LEVEL
CODED DATA
SHIFTER
1303
DETECT ESCAPE
1307
CODE WORD
COMPAR-ATOR
DECODER
1305
FREQUENCY OF OCCUR-RENCE
AC COEFFICIENT SYMBOL MEMORY
CODE LENGTH
RUN/LEVEL
FREQUENCY OF OCCUR-RENCE
COUNT-UP
VARIABLE-LENGTH CODE WORD AND CODE LENGTH MEMORY
1302
ADDRESS COUNTER
1304
FOR AC COEFFICIENT